

REDISCOVERY OF *BULBOCHAETE LONGIPES* BOURRELLY FROM INDIA

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ABSTRACT - *Bulbochaete longipes* Bourrelly has been recorded from India and this is probably the only record of the species from outside Ivory Coast (West Africa), the original locality of its occurrence.

RÉSUMÉ - *Bulbochaete longipes* Bourrelly n'avait pas été retrouvé depuis sa découverte en Côte d'Ivoire (Afrique de l'Ouest); il vient d'être observé en Inde.

KEY WORDS : *Bulbochaete longipes*, new record, India.

INTRODUCTION

The genus *Bulbochaete* is represented in India by 38 taxa (Gonzalves, 1981). Recently 19 taxa of *Bulbochaete* have been reported from West Bengal among which more than a dozen of species are either new to science or new records for India (Sarma *et al.*, 1982, 1986, 1988; Kargupta & Sarma, 1987; Sarma & Mukherjee, 1985, 1990). While working on the freshwater algal flora of Midnapur district of West Bengal, the authors have come across this interesting and rare species of *Bulbochaete* (recorded after long 30 years of its original publication) among other species. This is one of the very few species of *Bulbochaete* where oospore does not fill the oogonium. This species was originally described by Bourrelly (1961) from tropical West Africa (Ivory Coast) and was later included in the African monograph on Oedogoniales by Gauthier-Liévre (1963-64). It has not been reported yet from elsewhere. The present specimen in general tallies with the description given by Bourrelly (*loc. cit.*) but shows some additional features.

OBSERVATIONS

Bulbochaete longipes Bourrelly

Nannandrous, gynandrosporous; plant short, arcuate well branched; vegetative cells short cylindrical-arcuate, 12 to 17 μm broad, 20 to 22 μm long with 3-6 pyrenoids per cell; basal cells conical, jointed with long delicate

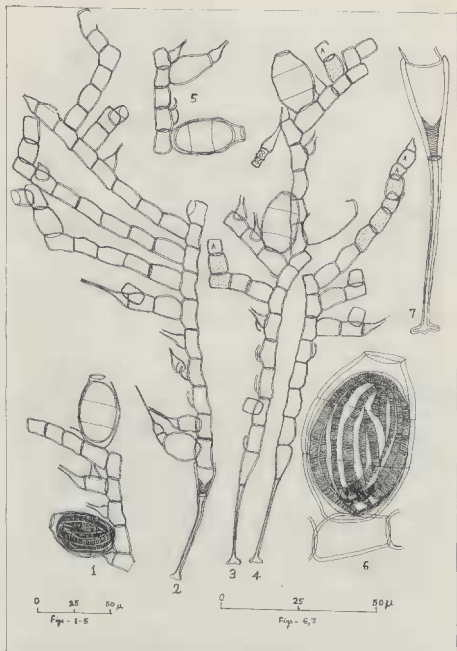


Fig. 1, 5: Part of plant body showing patent oogonia. Fig. 2, 4: General habit showing holdfast, nannandrium and androsporangia (A). Fig. 6: Ornamentation of the oospore. Fig. 7: Detail of the holdfast.

(3-4 μm broad) pedicellate extension ending in a lobed adhesive disc 10 μm in diameter, upper portion of the cone being 15-18 μm broad, wall of lower portion of conical basal cell distinctly lamellate; total length of basal cell (including the pedicellate extension) 109 to 114 μm , oogonium directly born on the filament, ellipsoid, patent, 37 to 42 μm broad, 59 to 69 μm long; oospore ellipsoid, not filling the oogonium, 35 to 37 μm broad, 57 to 59 μm long; outer layer of spore wall thin, delicate and smooth, median layer thick with 8-12 strong costae with crenulate margin, furrows between costae astrated; androsporangia 12 to 17 μm broad, 15 to 22 μm long; dwarf males near oogonia, 49 μm (including antheridia) long; stipe elongate, slightly curved, 12 μm broad; antheridium 9 to 10 μm broad, 10 to 12 μm long, exterior and seriate (two).

Coll. No. JPK 352, dated 3.11.88, collected from Dogachia, District Midnapur (West Bengal) growing attached on aquatic grass in a pond, pH 6, temp. 32°C at 11 a.m.

TAXONOMIC CONSIDERATIONS

The present Indian specimen differs from the original one of West Africa in having well branched plant body, larger oogonia, oospores and nanandria, and distinctly seriate antheridia on dwarf male stipe. Additional features observed in the present specimen are: conical basal cell jointed with a long and delicate pedicellate extension ending in a lobed adhesive disc, distinctly crenulate costae on the median wall of oospore and the gynandrosporous nature.

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REFERENCES

- BOURRELLY P., 1961 - Algues d'eau douce de la République de Côte d'Ivoire. *Bull. Inst. Franç. Afrique Noire Sér. A.* 23 (2): 283-374, 24 pl.
- GAUTHIER-LIÈVRE L., 1963-1964 - Oedogoniacées Africaines. *Nova Hedwigia* 6-7: 151-481; 545-558.
- GONZALVES E.A., 1981 - *Oedogoniales*. Indian Council of Agricultural Research, New Delhi, 757p.
- KARGUPTA A.N. & SARMA P., 1987 - Rare species of *Bulbochaete* (Chlorophyceae: Oedogoniales) from Birbhum and Murshidabad districts of West Bengal, India. *Hydrobiologia* 153: 13-21.
- SARMA P., MUKHERJEE D.D. & MUSTAFA G., 1982 - On two new taxa of nanandrous *Bulbochaete* from West Bengal (Abstr.). *Proc. 69th Indian Sci. Congr.* Pt. 3: 11.

* Original not seen.

- SARMA P. & MUKHERJEE D.D., 1985 - A new species of *Bulbochaete* from West Bengal, India. *Acta Phytotax. Sin.* 23 (4): 317-319.
- SARMA P., MUKHERJEE D.D. & CHAKRABARTY A.K., 1985 - On the occurrence of two new taxa of nannandrous *Bulbochaete* from West Bengal, India (Abstr.). *Proc. 72nd Indian Sci. Congr.* Pt. 3: 6.
- SARMA P., MUKHERJEE D.D. & CHAKRABARTY A.K., 1986 - New records of *Bulbochaete* species (nannandrous) from West Bengal, India (Abstr.). - *Proc. 73rd Indian Sci. Congr.* Pt. 3: 15.
- SARMA P., MUKHERJEE D.D. & CHAKRABARTY A.K., 1988 - New record of nannandrous *Bulbochaete* (Oedogoniales: Chlorophyta) from West Bengal, India. *Nova Hedwigia* 47 (1-2): 255-267.
- SARMA P. & MUKHERJEE D.D., 1990 - A new species of macrandrous heterothallic *Bulbochaete* (= *B. iyengarii* sp. nov.) from West Bengal, India. In RAJA RAO V.N. (Ed.), *Perspectives in Phycology* (Prof. M.O.P. Iyengar Centenary Celebration Volume). Today and Tomorrow's Printers & Publishers, New Delhi, pp. 55-57.